1600
1644

Serial Number: 08/88 980E

Processing Date: 9/13/02
Edited by: DC
Verified by: _____ (STIC staff)

ENTERED

☐ Changed a file from non-ASCII to ASCII

☑ Changed the margins in cases where the sequence text was "wrapped" down to the next line

☐ Edited a format error in the Current Application Data section, specifically:
_____

☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other _____.

☐ Added the mandatory heading and subheadings for "Current Application Data".

☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.

☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically:
_____

☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were:
_____

☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:
_____

☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.

RECEIVED

☐ Inserted colons after headings/subheadings. Headings edited included:
_____

SEP 1 8 2002

☐ Deleted extra, invalid, headings used by an applicant, specifically:
_____

TECH CENTER 1600/2900

☐ Deleted: ☐ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as _____.

☐ Inserted mandatory headings, specifically: _____

☐ Corrected an obvious error in the response, specifically:
_____

☐ Edited identifiers where upper case is used but lower case is required, or vice versa.

☐ Corrected an error in the Number of Sequences field, specifically:
_____

☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.

☐ Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: _____

☑ Other: Re-aligned amino numbering in Seqs. 107 + 109
_____
_____

*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.   3/1/95

1600

```
RAW SEQUENCE LISTING                    DATE: 09/13/2002
PATENT APPLICATION:  US/08/823,980E      TIME: 13:11:37

Input Set : N:\Crf4\09112002\H823980E.DC.txt
Output Set: N:\CRF4\09132002\H823980E.raw

         SEQUENCE LISTING
1  (1) GENERAL INFORMATION:
2        (i) APPLICANT: Weiner, Amy J.
3                      Houghton, Michael
4       (ii) TITLE OF INVENTION: Conserved Motif of Hepatitis C Virus
5                      E2/NS1 Region
6      (iii) NUMBER OF SEQUENCES: 135
7       (iv) CORRESPONDENCE ADDRESS:
8            (A) ADDRESSEE: Chiron Corporation
9            (B) STREET: 4560 Horton Street
10           (C) CITY: Emeryville
11           (D) STATE: CA
12           (E) COUNTRY: USA
13           (F) ZIP: 94608-2916
14        (v) COMPUTER READABLE FORM:
15           (A) MEDIUM TYPE: Floppy disk
16           (B) COMPUTER: IBM PC compatible
17           (C) OPERATING SYSTEM: PC-DOS/MS-DOS
18           (D) SOFTWARE: PatentIn Release #1.0, Version #1.25
19       (vi) CURRENT APPLICATION DATA:
C--> 20           (A) APPLICATION NUMBER: US/08/823,980E
C--> 21           (B) FILING DATE: 25-Mar-1997
22           (C) CLASSIFICATION:
23     (viii) ATTORNEY/AGENT INFORMATION:
24           (A) NAME: Robins, Roberta L.
25           (B) REGISTRATION NUMBER: 41,411
26           (C) REFERENCE/DOCKET NUMBER: CHIR-0108
27       (ix) TELECOMMUNICATION INFORMATION:
28           (A) TELEPHONE: 650-325-7812
29           (B) TELEFAX: 650-325-7823
30 (2) INFORMATION FOR SEQ ID NO: 1:
31        (i) SEQUENCE CHARACTERISTICS:
32           (A) LENGTH: 6 amino acids
33           (B) TYPE: amino acid
34           (C) STRANDEDNESS: single
35           (D) TOPOLOGY: linear
36       (ii) MOLECULE TYPE: peptide
37       (ix) FEATURE:
38           (A) NAME/KEY: Xaa
39           (B) LOCATION: 1
40           (D) OTHER INFORMATION: /label= variable
41 /note= "Represents Ala, Arg, Asp, Gly, Lys, Ser,
42 or Thr"
```

RAW SEQUENCE LISTING   DATE: 09/13/2002
PATENT APPLICATION: US/08/823,980E   TIME: 13:11:37

Input Set : N:\Crf4\09112002\H823980E.DC.txt
Output Set: N:\CRF4\09132002\H823980E.raw

```
 43        (ix) FEATURE:
 44               (A) NAME/KEY: Xaa
 45               (B) LOCATION: 2
 46               (D) OTHER INFORMATION: /label= variable
 47  /note= "Represents Ile, Leu, Met, Phe or Trp"
 48        (ix) FEATURE:
 49               (A) NAME/KEY: Xaa
 50               (B) LOCATION: 3
 51               (D) OTHER INFORMATION: /label= variable
 52  /note= "Represents Leu or Phe"
 53        (ix) FEATURE:
 54               (A) NAME/KEY: Xaa
 55               (B) LOCATION: 6
 56               (D) OTHER INFORMATION: /label= variable
 57  /note= "Represents Ala or Gly"
 58        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
W--> 59           Xaa Xaa Xaa Xaa Xaa Xaa
 60               1                5
 62  (2) INFORMATION FOR SEQ ID NO: 2:
 63        (i) SEQUENCE CHARACTERISTICS:
 64               (A) LENGTH: 32 amino acids
 65               (B) TYPE: amino acid
 66               (C) STRANDEDNESS: single
 67               (D) TOPOLOGY: linear
 68        (ii) MOLECULE TYPE: peptide
 69        (ix) FEATURE:
 70               (A) NAME/KEY: Xaa
 71               (B) LOCATION: 1
 72               (D) OTHER INFORMATION: /label= Dpr
 73  /note= 2,3-diaminopropionic is acetyl cysteine
 74        (ix) FEATURE:
 75               (A) NAME/KEY: Xaa
 76               (B) LOCATION: 2
 77               (D) OTHER INFORMATION: /label= Ahe
 78  /note= 2-amino heptanoic is butyl alanine
 79        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
W--> 80           Xaa Xaa Glu Thr His Val Thr Gly Gly Ser Ala Gly His Thr Val Ser
 81               1                5                  10                  15
 82           Gly Phe Val Ser Leu Leu Ala Pro Gly Ala Lys Gln Asn Val Gln Leu
 83                            20                  25                  30
 85  (2) INFORMATION FOR SEQ ID NO: 3:
 86        (i) SEQUENCE CHARACTERISTICS:
 87               (A) LENGTH: 5 amino acids
 88               (B) TYPE: amino acid
 89               (C) STRANDEDNESS: single
 90               (D) TOPOLOGY: linear
 91        (ii) MOLECULE TYPE: peptide
 92        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
 93           Val Ser Leu Leu Ala
```

RAW SEQUENCE LISTING   DATE: 09/13/2002
PATENT APPLICATION: US/08/823,980E   TIME: 13:11:37

Input Set : N:\Crf4\09112002\H823980E.DC.txt
Output Set: N:\CRF4\09132002\H823980E.raw

```
 94               1               5
 96 (2) INFORMATION FOR SEQ ID NO: 4:
 97      (i) SEQUENCE CHARACTERISTICS:
 98           (A) LENGTH: 7 amino acids
 99           (B) TYPE: amino acid
100           (C) STRANDEDNESS: single
101           (D) TOPOLOGY: linear
102      (ii) MOLECULE TYPE: peptide
103      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
104           Ser Leu Leu Ala Pro Gly Ala
105               1               5
107 (2) INFORMATION FOR SEQ ID NO: 5:
108      (i) SEQUENCE CHARACTERISTICS:
109           (A) LENGTH: 5 amino acids
110           (B) TYPE: amino acid
111           (C) STRANDEDNESS: single
112           (D) TOPOLOGY: linear
113      (ii) MOLECULE TYPE: peptide
114      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
115           Leu Ala Pro Gly Ala
116               1               5
118 (2) INFORMATION FOR SEQ ID NO: 6:
119      (i) SEQUENCE CHARACTERISTICS:
120           (A) LENGTH: 7 amino acids
121           (B) TYPE: amino acid
122           (C) STRANDEDNESS: single
123           (D) TOPOLOGY: linear
124      (ii) MOLECULE TYPE: peptide
125      (ix) FEATURE:
126           (A) NAME/KEY: Xaa
127           (B) LOCATION: 7
128           (D) OTHER INFORMATION: /label= variable
129 /note= "Represents Ala, Pro or Ser"
130      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
W--> 131         Ser Leu Leu Xaa Xaa Gly Xaa
132               1               5
134 (2) INFORMATION FOR SEQ ID NO: 7:
135      (i) SEQUENCE CHARACTERISTICS:
136           (A) LENGTH: 7 amino acids
137           (B) TYPE: amino acid
138           (C) STRANDEDNESS: single
139           (D) TOPOLOGY: linear
140      (ii) MOLECULE TYPE: peptide
141      (ix) FEATURE:
142           (A) NAME/KEY: Xaa
143           (B) LOCATION: 7
144           (D) OTHER INFORMATION: /label= variable
145 /note= "Represents Ala, Pro or Ser"
146      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
```

RAW SEQUENCE LISTING   DATE: 09/13/2002
PATENT APPLICATION: US/08/823,980E   TIME: 13:11:37

```
              Input Set : N:\Crf4\09112002\H823980E.DC.txt
              Output Set: N:\CRF4\09132002\H823980E.raw

W--> 147             Ser Leu Phe Xaa Xaa Gly Xaa
     148              1               5
     150 (2) INFORMATION FOR SEQ ID NO: 8:
     151      (i) SEQUENCE CHARACTERISTICS:
     152          (A) LENGTH: 31 amino acids
     153          (B) TYPE: amino acid
     154          (C) STRANDEDNESS: single
     155          (D) TOPOLOGY: linear
     156     (ii) MOLECULE TYPE: peptide
     157     (ix) FEATURE:
     158          (A) NAME/KEY: Xaa
     159          (B) LOCATION: 1
     160          (D) OTHER INFORMATION: /label= variable
     161 /note= "Represents Any Amino Acid"
     162     (ix) FEATURE:
     163          (A) NAME/KEY: Xaa
     164          (B) LOCATION: 3
     165          (D) OTHER INFORMATION: /label= variable
     166 /note= "Represents Any Amino Acid"
     167     (ix) FEATURE:
     168          (A) NAME/KEY: Xaa
     169          (B) LOCATION: 8
     170          (D) OTHER INFORMATION: /label= variable
     171 /note= "Represents Any Amino Acid"
     172     (ix) FEATURE:
     173          (A) NAME/KEY: Xaa
     174          (B) LOCATION: 14
     175          (D) OTHER INFORMATION: /label= variable
     176 /note= "Represents Any Amino Acid"
     177     (ix) FEATURE:
     178          (A) NAME/KEY: Xaa
     179          (B) LOCATION: 16
     180          (D) OTHER INFORMATION: /label= variable
     181 /note= "Represents Any Amino Acid"
     182     (ix) FEATURE:
     183          (A) NAME/KEY: Xaa
     184          (B) LOCATION: 17
     185          (D) OTHER INFORMATION: /label= variable
     186 /note= "Represents Any Amino Acid"
     187     (ix) FEATURE:
     188          (A) NAME/KEY: Xaa
     189          (B) LOCATION: 21
     190          (D) OTHER INFORMATION: /label= variable
     191 /note= "Represents Any Amino Acid"
     192     (ix) FEATURE:
     193          (A) NAME/KEY: Xaa
     194          (B) LOCATION: 22
     195          (D) OTHER INFORMATION: /label= variable
     196 /note= "Represents Any Amino Acid"
```

RAW SEQUENCE LISTING   DATE: 09/13/2002
PATENT APPLICATION: US/08/823,980E   TIME: 13:11:37

Input Set : N:\Crf4\09112002\H823980E.DC.txt
Output Set: N:\CRF4\09132002\H823980E.raw

```
197        (ix) FEATURE:
198              (A) NAME/KEY: Xaa
199              (B) LOCATION: 24
200              (D) OTHER INFORMATION: /label= variable
201  /note= "Represents Any Amino Acid"
202        (ix) FEATURE:
203              (A) NAME/KEY: Xaa
204              (B) LOCATION: 27
205              (D) OTHER INFORMATION: /label= variable
206  /note= "Represents Any Amino Acid"
207        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
W--> 208         Xaa Thr Xaa Val Thr Gly Gly Xaa Ala Ala Arg Thr Thr Xaa Gly Xaa
209              1               5                   10              15
W--> 210         Xaa Ser Leu Phe Xaa Xaa Gly Xaa Ser Gln Xaa Ile Gln Leu Ile
211                        20                  25              30
213  (2) INFORMATION FOR SEQ ID NO: 9:
214        (i) SEQUENCE CHARACTERISTICS:
215              (A) LENGTH: 31 amino acids
216              (B) TYPE: amino acid
217              (C) STRANDEDNESS: single
218              (D) TOPOLOGY: linear
219        (ii) MOLECULE TYPE: peptide
220        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
221              Ala Thr Tyr Ala Thr Gly Ala Ala Gln Gly His Ala Thr Asn Ser Phe
222              1               5                   10              15
223              Val Ser Leu Phe Arg Ser Gly Ala Ser Gln Asn Leu Lys Leu Val
224                        20                  25              30
226  (2) INFORMATION FOR SEQ ID NO: 10:
227        (i) SEQUENCE CHARACTERISTICS:
228              (A) LENGTH: 31 amino acids
229              (B) TYPE: amino acid
230              (C) STRANDEDNESS: single
231              (D) TOPOLOGY: linear
232        (ii) MOLECULE TYPE: peptide
233        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
234              Ser Thr Gln Val Thr Gly Gly Gln Ala Ala His Thr Val Arg Gly Val
235              1               5                   10              15
236              Ala Ser Ile Phe Ser Pro Gly Ser Arg Gln Asp Ile Ser Leu Ile
237                        20                  25              30
239  (2) INFORMATION FOR SEQ ID NO: 11:
240        (i) SEQUENCE CHARACTERISTICS:
241              (A) LENGTH: 31 amino acids
242              (B) TYPE: amino acid
243              (C) STRANDEDNESS: single
244              (D) TOPOLOGY: linear
245        (ii) MOLECULE TYPE: peptide
246        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
247              Ser Thr Arg Val Thr Gly Gly Gln Gln Gly Arg Ala Val His Gly Ile
248              1               5                   10              15
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 09/13/2002
PATENT APPLICATION: US/08/823,980E   TIME: 13:11:38

Input Set : N:\Crf4\09112002\H823980E.DC.txt
Output Set: N:\CRF4\09132002\H823980E.raw

<u>Please Note:</u>
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos.1,2,3,4,5,6
Seq#:2; Xaa Pos.1,2
Seq#:6; Xaa Pos.4,5,7
Seq#:7; Xaa Pos.4,5,7
Seq#:8; Xaa Pos.1,3,8,14,16,17,21,22,24,27
Seq#:133; Xaa Pos.1
Seq#:134; Xaa Pos.4,5
Seq#:135; Xaa Pos.1,3,8,14,16,17,21,22,24,27

VERIFICATION SUMMARY
PATENT APPLICATION: US/08/823,980E

DATE: 09/13/2002
TIME: 13:11:38

Input Set : N:\Crf4\09112002\H823980E.DC.txt
Output Set: N:\CRF4\09132002\H823980E.raw

L:20 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:21 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:59 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:80 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:131 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
L:147 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0
L:208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0
L:210 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:16
L:1838 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:133 after pos.:0
L:1851 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:134 after pos.:0
L:1919 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:135 after pos.:0
L:1921 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:135 after pos.:16